

# Neha Desaraju

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## Education

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### University of Texas at Austin

Austin, TX

B.S. Computer Science

08/2021 - 05/2024

- Relevant Coursework: Natural Language Processing, Geometric Foundations of Data Science, Operating Systems, Computer Architecture, Intro to Machine Learning, Compilers
- Contributed to the Machine Learning Lab and Human-AI Interaction Lab
- Extracurriculars: VP of Technical Development at Kappa Theta Pi, VP of Special Projects at Texas Momentum
- In progress: Senior thesis on CLIP distillation advised by Dr. Sujay Sanghavi; NLP final project on novel differentiable image retrieval methods; Geometric Foundations of Data Science final project on improving robustness and safety for autonomous driving using reinforcement learning

## Relevant Research Experience

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### Machine Learning Lab

Austin, TX

Research Assistant

07/2023 - present

- Implementing image-text model distillation techniques including faster and more accurate CLIP distillation compared to baselines. Techniques include asymmetric tower training, new multimodal loss functions, and linear projection teachers.

### Quire AI

Austin, TX

Founder

05/2023 - present

- Developing adaptive web scraping solutions using language interaction concepts, agents, and reinforcement learning for human alignment.
- Accepted to .406 Ventures Fellowship and Prod Summer 2023 cohort.

### Human-AI Interaction Lab

Austin, TX

Research Assistant

01/2023-05/2023

- Developed AI-driven food allocation solutions for nonprofits to create better interfaces for decision-makers from nontechnical backgrounds to understand the impact and limitations of machine learning models for their use case.
- Implemented frontend and backend for designs for model selection elicitation from users that would allow users to develop and compare their own models to use in decision making tasks such as food allocation for shelters.

### Citi Bank

Dallas, TX

Machine Learning Intern

06/2022-08/2022

- Implemented 5 end-to-end machine learning pipelines for document information extraction, including with transformers-based models such as LayoutLM and Donut for business applications.
- Developed solutions for computer vision and natural language processing tasks for entity recognition, labeling, OCR, text detection, etc.
- Prototyped multiple offline human labeling solutions for fine tuning foundation models.

### Bluebonnet Data

Remote

Data Fellow

07/2020-04/2021

- Analyzed state court opinions and jury data in Texas and Nebraska to determine judicial bias in over 2000 capital punishment cases.
- Work used as part of bill introduced in the Nebraska Senate.

### Harvard Center for Geographical Analysis

Remote

Research Assistant

07/2020-04/2021

- Analyzed various COVID-19 machine learning prediction models under Harvard postdoc fellow Dr. Tao Hu.
- Presented research at a National Science Foundation webinar.

## *Other Experience*

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### **Texas Momentum**

**Austin, TX**

*Vice President of Special Projects*

*04/2023 - present*

- Leading the third cohort of UT's student-run startup accelerator program.
- Growing technical infrastructure and leading programs for a community of 30+ talented student founders and engineers through special projects such as an entrepreneur-in-residence program and technical projects.

### **Texas Kappa Theta Pi**

**Austin, TX**

*Vice President of Technical Development*

*05/2022 - present*

- Founding executive member of UT's professional technical fraternity.
- Led outreach efforts, technical workshop development, and hosted events in upskilling students from a variety of majors for a career in technology.
- Grew organization 3x with tech-passionate students on campus.

### **Citi Bank**

**Dallas, TX**

*Data Analyst Intern*

*06/2023-08/2023*

- Created classification and search engine model to intelligently tag 6000+ internal Tableau reports using unsupervised techniques to cluster text data.
- Aided in the development of a unified interface to browse Tableau dashboards created within the organization.

## *Skills*

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**Languages** Python, Java, C/C++, Javascript, R,  
HTML/CSS, SQL, bash/Linux

**Tools** Tensorflow, Pytorch, GCP, OpenCV, OpenAI Gym

**Concepts** Machine learning, reinforcement learning,  
natural language processing, computer vision,  
computer processors, research

## *Awards*

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**Most Creative Hack**, *Uncommon Hacks*

**Second Best Sociocultural Hack**, *Merge Hacks*

**Best in Finance Hack**, *Athena Hacks/Bloomberg*